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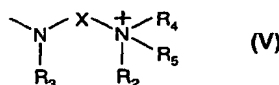
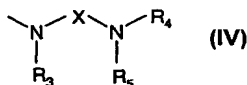
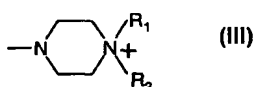
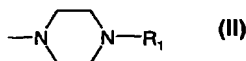
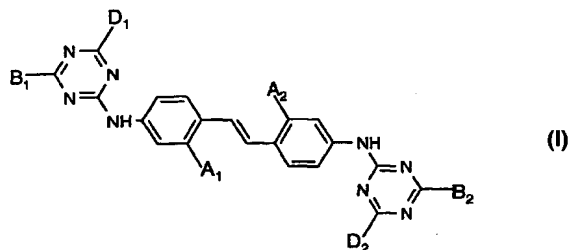
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(54) Title: AMPHOTERIC AND CATIONIC FLUORESCENT WHITENING AGENTS



(57) Abstract: Abstract A compound of the formula wherein A<sub>1</sub> and A<sub>2</sub> each, independently of one another, represent -SO<sub>3</sub> or -SO<sub>3</sub>M, where M represents hydrogen, an alkaline or alkaline earth metal, ammonium or alkylammonium, B<sub>1</sub> and B<sub>2</sub> each, independently of one another, represent the moiety in which R<sub>1</sub> represents hydrogen, a straight-chain C<sub>1</sub>-C<sub>12</sub>alkyl or branched C<sub>3</sub>-C<sub>12</sub>alkyl group which C<sub>2</sub>-C<sub>12</sub>alkyl and C<sub>3</sub>-C<sub>12</sub>alkyl group, respectively, may be interrupted by one or two heteroatoms and is unsubstituted or substituted by one or two -OH, -OC<sub>1</sub>-C<sub>4</sub>alkyl, -NH<sub>2</sub>, -NHC<sub>1</sub>-C<sub>4</sub>alkyl, -N(C<sub>1</sub>-C<sub>4</sub>alkyl)<sub>2</sub>, -N-pyrrolidino, -N-piperidino, -N-morpholino or -N<sup>+</sup>(C<sub>1</sub>-C<sub>4</sub>alkyl)<sub>3</sub> groups and R<sub>2</sub> represents C<sub>1</sub>-C<sub>4</sub>alkyl, C<sub>2</sub>-C<sub>4</sub>hydroxyalkyl, -CH<sub>2</sub>CONH<sub>2</sub>, -CH<sub>2</sub>OOH or -CH<sub>2</sub>OO C<sub>1</sub>-C<sub>4</sub>alkyl or, alternatively, B<sub>1</sub> and B<sub>2</sub> each, independently of one another, represent a group of the formula in which R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> each, independently of each other, represent hydrogen, C<sub>1</sub>-C<sub>4</sub>alkyl, C<sub>2</sub>-C<sub>4</sub>hydroxyalkyl, the group -X'-NR<sub>6</sub>R<sub>7</sub> or the group -X'-N<sup>+</sup>R<sub>3</sub>R<sub>6</sub>R<sub>7</sub>, whereby at least one of the substituents R<sub>4</sub> and/or R<sub>5</sub> represents -X'-NR<sub>6</sub>R<sub>7</sub> or -X'-N<sup>+</sup>R<sub>3</sub>R<sub>6</sub>R<sub>7</sub>, X

and X' each, independently of each other, represent a straight-chain C<sub>2</sub>-C<sub>8</sub>alkylene or branched C<sub>3</sub>-C<sub>8</sub>alkylene chain, which is unsubstituted or substituted by one or two -OH or -C(=O)- groups, R<sub>6</sub> and R<sub>7</sub> each, independently of each other, represent hydrogen, C<sub>1</sub>-C<sub>4</sub>alkyl or, together with the nitrogen atom to which they are bound, complete a pyrrolidino, piperidino or morpholino ring and R<sub>2</sub> is as previously defined and each D<sub>1</sub> and D<sub>2</sub>, independently of one another, are either defined as for B<sub>1</sub> and B<sub>2</sub> or represent halogen, -NH<sub>2</sub>, C<sub>1</sub>-C<sub>4</sub>monoalkyl- or dialkylamino, said alkyl groups being unsubstituted or substituted by C<sub>1</sub>-C<sub>4</sub>alkoxy, amino, mono- or di-C<sub>1</sub>-C<sub>4</sub>alkylamino or tri-C<sub>1</sub>-C<sub>4</sub>alkylammonium; C<sub>2</sub>-C<sub>4</sub>hydroxyalkylamino, C<sub>2</sub>-C<sub>4</sub>di (hydroxyalkyl)amino, anilino, an aniline monosulphonic acid or sulphonamide residue or a 5- or 6-membered, saturated heterocyclic ring or, alternatively, mixtures of compounds of formula (1), a process for their preparation and the use thereof as fluorescent whitening agents, especially for paper.



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## B. FIELDS SEARCHED

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CHEM ABS Data, EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; BANKOWSKI, LESZEK ET AL: "Studies on the synthesis and evaluation of optical brighteners, derivatives of sym-triazinyldiaminostilbene and 2,5-disulfoaniline" retrieved from STN Database accession no. 94:67268 XP002208810 compound with RN=76508-01-5 & PRZEM. CHEM. (1980), 59(9), 489-91,	1-5, 12

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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Information on patent family members

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